Peer Review Report

Auckland International Airport,
Wellington International Airport, and
Christchurch International Airport

For:

New Zealand Commerce Commission

Status: Draft - 27 June 2001

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0.0 Executive Summary - Peer Review

0.1 General

Evan Gamby of TelferYoung (Auckland) Limited and Chris Stanley of TelferYoung (Canterbury) Limited were commissioned to provide a written report reviewing the valuations obtained by Auckland International Airport Limited (AIAL), Wellington International Airport Limited (WIAL) and Christchurch International Airport Limited (CIAL) in respect of the land employed in providing airfield activities as defined in the Airport Authorities Amendment Act 1997 - land associated with the airports' runways, taxiways and aprons. The report is to cover:

+ The appropriateness of methodologies adopted by the airports and/or their valuers
+ The consistency of methodologies across the airports
+ The robustness of the application of valuation principles

The report should take account of (and advise on) the zoning and permitted uses of the land, as well as the provisions of Section 40 of the Public Works Act 1981 (where they apply).

The report shall be prepared in accordance with the proposal provided by the consultants.

To provide other assistance to the Commissioner on the valuation of airfield activities as required and agreed.

The proposal of the consultants did not include for, and no information has been provided on, the provision of Section 40 of the Public Works Act 1981. At a later date this may be the subject of an addendum if deemed appropriate or necessary.

All airports were inspected in conjunction with relevant personnel of AIAL, WIAL and CIAL. All documentation requested was provided and the airline companies gave assistance on a full and frank basis. Valuers who undertook assessments of value for the airline companies were present at meetings and contributed extensively to an understanding of the methodologies adopted for the valuations.

Markets were investigated to determine the appropriateness of considering value levels within the methodologies proposed. Initial airport land value comparisons were prepared in a spreadsheet attached as **Appendix 1**, highlighting the differences in per hectare values on an isolated and overall basis. The summary of initial valuations presented for each of the airport companies, and the overall valuations, which include all activities, conceal relevant valuation issues from an airport pricing perspective.

There has been no movement in the value levels at CIAL as a result of the consultation process. WIAL has not entered into a consultation process, as this is not due until 2002. There has been substantial consultation on the AIAL valuations, resulting in a departure from the original valuation report for landing charge pricing. The net effect on the values from an airfield charging perspective at AIAL has been a decrease of approximately 17.3% from the original valuation.

0.2 Appropriateness of Methodologies

As confirmed by all valuers, under ODRC methodology land value is to be assessed as Market Value Existing Use (MVEU). This was the basis adopted. The interpretation of MVEU and the methods of arriving at the resultant value are location specific and reflect market conditions based on geographical differences.

Traditionally, Wellington has high valued land because of topographical constraints This is reflected in a high level of value for the Wellington Airport land. Additional valuation approaches would have been of assistance and are recommended, notably the DCF approach and civil works approach.

The valuation of CIAL indicates values at the opposite end of the value spectrum being a very large area of land of relatively low value on the outskirts of Christchurch, located in a geographic region where availability of land is less of a constraint. Only one method of valuation was adopted. There may be little demand for a DCF analysis or civil works approach as the zonal approach was sufficiently robust, but, for comparative purposes with the other airports, other methods should not be ignored.

The value levels per hectare for AIAL sit between the two extremes and are reflective of a region with less constraints than the severely broken land forms of Wellington, but more extensively constrained by a narrow isthmus than the open plains of Canterbury. Auckland has a severely indented coastline, is a more highly urbanised region, is squeezed at its centre, with broken land forms to the north, and restricted development opportunities to the south.

It is unarguable that the value levels in each location will be significantly different no matter what valuation technique is applied to the underlying methodology.

The reviewers found that the approaches utilised for the airport valuations could be individually criticised in terms of their robustness in the following areas:

+ CIAL - a satisfactory zonal approach, with opportunities for considering other methods as a check.

+ WIAL - a satisfactory zonal approach, with the opportunity to consult on value levels, weakly supported by a hypothetical subdivisional analysis that would have been improved by a more robust DCF calculation. The civil works and basic land value approach would have been a useful extension to other valuation approaches to determine MVEU.

+ The AIAL valuation relied on a zonal approach, supported by comparative market sales within a wide range of alternatives, suitable as a primary approach to the assessment of airport zoned land. The DCF approach, although severely criticised, was an attempt to test or check the primary process. Further development would be beneficial in a template agreed to by the parties involved in the consultation process, with sensitivity analysis on a relatively broad range of assumptions. The addition of "holding costs" to land value, as utilised in the valuation, is economically indefensible, but on closer examination this was not the intent of a valuation process which contains many subjective elements and acknowledges the difficulties of accumulating land for airport use. An alternative "premium addition" approach to reflect the zoning, potential, aggregation and consent issues would better describe the manner in which a base land value was extended through to an airport zoned land value.

  A check "civil works" exercise would have been valuable as a "test" on the validity of the valuation to establish a MVEU, particularly given the extensive investigations 40 years earlier on the appropriateness of developing Mangere in its present form as Auckland's International Airport.

0.3 Summary Methodology

All valuers assessed the land as MVEU.

FRS3 will, in the future, require the reporting of a "fair value". The result of a consultation process, or price control, would not necessarily alter the value levels although it would give the opportunity to explore additional concepts that may be incorporated in the determination of land charges.

0.4 Consistency of Methodology

The consistency of methodology application across the three airports was found within the zonal approach, following classification of the assets, based on market values. All valuers adopted this technique as the primary method of classification and determination of values, based on intensity of use.

This is wholly appropriate to the valuation task. The debate on values can and does centre more on the appropriateness of the land value levels than on the intensity of use. It should be recognised that a consultation process has not been entered into for WIAL and the views of customers are currently unknown.

No supporting approaches to the methodology were presented for CIAL.

The WIAL secondary approach contained flaws as did the secondary approach of AIAL. However, the appropriateness of the methodology for AIAL is not in question, and could be developed to add robustness to the valuation exercise. The DCF approach could also be utilised at WIAL and possibly CIAL to improve the robustness of the valuation exercise for these airports.

There are notable inconsistencies between the treatment of assets of AIAL and WIAL as follows:

+ Seabeds were valued in Auckland, and to date only partially backed out of the exercise for the assessment of landing charges. There are no seabeds under the control of WIAL, yet both companies exercise satisfactory control of their adjoining sea hinterlands by planning controls. From a landing charge perspective, there appears no obvious justification, at present, to differentiate between WIAL and AIAL. The final recommendation is that seabeds should not be ascribed an independent value, at present, for the assessment of land charges.

+ The seawall is now treated as a civil cost for AIAL, which is consistent with WIAL. To the extent that a zonal approach to land value is adopted, there is no justifiable reason why the seawall should be treated other than as a civil work. The same would apply, under a civil works valuation basis. Seawalls otherwise must be subsumed within the land value.

+ Peculiar to Auckland there has been the inclusion of approach land at the eastern end of the runway, the Wiroa Island land and the second runway expansion land. It is accepted that AIAL has a utility value at Wiroa and the eastern approaches. This is appropriate for landing charge inclusion. The utility value could be derived through a consultative process but is unlikely to be less in value than the purchase price of underlying rural land.

+ The anomaly, if there is one, is that no comparable values are required to be included for WIAL. The inclusion of the value for the second runway in landing charges at AIAL may be hard to defend although its inclusion in AIAL's financial reporting is fundamental. This issue is potentially irresolvable in terms of the conflicting requirements and the positions of the respective parties. Economically, it would be difficult to justify the inclusion of the second runway land in landing charges. The remaining land held for expansion has been correctly removed from the calculation.

The valuation principles utilised to support the methodology are, with reservations, confirmed for each of AIAL, WIAL and CIAL to the extent that they rely upon market evidence and have been applied on a zonal basis as the primary approach to valuation. No secondary approach was utilised by CIAL but attempts to adopt a secondary approach might have been helpful, selected from a base land/civil works or DCF application.

Alternative approaches were attempted at each of AIAL and WIAL. The hypothetical subdivision approach adjusted for holding costs is potentially indefensible at WIAL in the same manner as the holding cost addition approach for AIAL. However, the DCF approach when developed further is a logical and sensible method of attempting to determine a value that can be related to a fair market. In the absence of fair market sales it may be one of only two methods left for consideration.

The civil works approach to value should not be ignored and can be differentiated from the historical cost or a flotation cost exercise that would not be favoured. It is unlikely that a Greenfields alternative could be located at either Auckland or Wellington on a basis of equal merit to Mangere and Rongotai. The civil works required at each location were quite dramatic. For WIAL they comprised elaborate reclamations of Evans Bay and Lyall Bay, the removal of a hill and the reclamation of land in Evans Bay. At AIAL, existing farm land of high natural value was preserved and extensive reclamation undertaken into the Manukau Harbour. The reclamation has been extended and now represents approximately 40% of the total land utilised for airfield activities. This approach to airfield development acknowledges the specific advantages of a harbour both location in terms of curfew, noise, airport utilisation and meteorological conditions.

A combination of a civil works activity calculation and a base airport zoned land value within comparative market value analysis would appear to be a viable application and within valuation principles for MVEU, and in due course fair value under FRS3.

In the event that price control is deemed appropriate, the range of valuation approaches indicated would comprise the only known robust approaches to the assessment of an MVEU or in due course a fair value. Both value determinations may transpire to be the same, although that is a debate yet to take place.

In the event that price control is deemed appropriate then, the interpretation of valuation principles. methodologies and valuation issues advanced by the airport companies and significant customers are almost certain to cover the same range of opinions as have been disclosed in the substantial documentation provided.

1.0 Introduction

The Commerce Commission issued a paper on 2 March 2001 entitled "Price Control Study of Airport Activities". This details that the Minister of Commerce requires the Commerce Commission to report on whether the Minister should recommend the introduction of price controls on airport activities at any of Christchurch, Wellington or Auckland International Airports.

The Commerce Commission is to undertake a price control study of airport activities. As a result of its preliminary investigations the Commerce Commission identified what it considered to be the critical issues for the study.

As a consequence of the critical issues paper and responses received from interested parties the Commerce Commission entered into a consultancy agreement with TelferYoung (Auckland) Limited and TelferYoung (Canterbury) Limited to provide a written report peer reviewing the valuations obtained by Auckland International Airport Limited, Wellington International Airport Limited and Christchurch International Airport Limited in respect of the land employed in providing airfield activities, as defined in the Airport Authorities Amendment Act 1977, being land associated with the airports runways, taxi ways and aprons.

This draft report is in accordance with the consultancy agreement between the parties.

2.0 The Procedure

Evan Gamby of TelferYoung (Auckland) Limited (Gamby) and Chris Stanley of TelferYoung (Canterbury) Limited (Stanley) represent TelferYoung. Gamby and Stanley have inspected the three airports accompanied by representatives of each airport company. An opportunity was given and taken to meet airport company representatives and valuers.

In conjunction with the inspection of the individual airports, Gamby and Stanley have perused the documentation referred to later in this report and have undertaken their own independent analysis to provide the Commerce Commission with the following:

- A commentary on the appropriateness of methodologies adopted by the airports and/or their valuers.
- The consistency of methodology across the airports.
- The robustness of the application of the valuation principles.

3.0 Documentation

A substantial amount of documentation was produced by the airport companies and their advisers, as well as submissions prepared by significant customers of the airport companies and other interested third parties.

A schedule of the documentation received to date is as follows:

3.1 Primary Documentation

+ Price Control Study of Airfield Activities Critical Issues Paper - 16 March 2001.

+ Seager & Partners Limited – AIAL Land Valuation as at 30 June 1999.

+ Ernst & Young International Limited – Wellington International Airport Limited Asset Valuation 31 March 2000.

+ Crighton, Seed & Associated Limited – Christchurch International Airport Land Valuation 30 June 1999.

+ Edward Rushton Australia Pty Limited – Valuation Submissions – 2 February 2000.

+ AIAL 'Valuers Meeting' document - dated June 2001

3.2 Secondary Documentation

+ Professor J. Bowman – Review of Reports Associated with AIAL dated 31 July 2000.

+ Ernst & Young – AIAL Review dated 21 September 1999.

+ Ernst & Young - Report to AIAL Audit Chairman dated 21 November 1999.

+ Beca Valuations – Auckland International Airport Limited dated 26 August 1999.

+ Ernst Young - Report to AIAL Audit Chairman dated 21 November 1999.

+ Air New Zealand Limited – Interim Consultation Response dated 14 February 2000.

+ Air New Zealand Limited – Interim Consultation Response dated 7 June 2000.

+ Air New Zealand Limited – Interim Consultation Response dated 31 July 2000.

- Auckland International Airport Limited – Consultation dated 7 April 2000.
- Auckland International Airport Limited – Consultation dated 20 April 2000.
- Auckland International Airport Limited – Response to Customers dated 17 May 2000.
- Auckland International Airport Limited – Submission to Commerce Commission dated 27 April 2001.
- Crighton, Seed & Associates Limited – Valuation Methodology Christchurch International Airport Limited – dated November 1998.
- Crighton, Seed & Associates Limited – Sealed Surfaces Valuation - dated 30 June 1999.
- Opus International Consultants – Review of Pavement Valuation Christchurch International Airport – dated 4 November 1999.
- Air Planning Pty Limited – Christchurch Pavement Cost Estimate dated 5 November 1999.
- Airport Planning Pty Limited – Christchurch International Airport Pavement Plan dated August 1996.
- Marine and Industrial Safety Limited – Fixed Asset Christchurch International Airport Limited.
- Christchurch International Airport Limited submission to Commerce Commission.
- Christchurch International Airport Limited Interim Response to Major Customers dated 8 March 2000.
- Christchurch International Airport Limited Interim Response to Land Valuation Issues dated 3 April 2000.
- Christchurch International Airport Limited Airport Charges dated December 2000.
- Air New Zealand Limited – Interim Response Christchurch International Airport Limited dated February 2000.
- Wellington International Airport Limited Submission to Commerce Commission dated 27 April 2001.

3.3 General

+ Board of Airline Representatives New Zealand (Inc) Planning Analysis of Auckland International Airport Limited Assets - dated June 2001.

+ The Brattle Group Incorporated Asset Valuation discussion paper dated 28 July 2000.

+ New Zealand Institute of Economic Research the Origins of ODV dated August 2000.

+ NECG Asset Valuation Issues for Airports dated 3 November 2000.

+ Ernst & Young Airport Valuations.

+ Leigh Fisher & Associates Report - dated 11 May 1959

+ Financial Reporting Standard No 2 - FRS3 - dated March 2001.

3.4 Confidential

+ Draft for Discussion Purposes - Seagar and Partners - dated 6 July 2000

+ Extract from AIAL Board Report - Inclusion of Second Runway Land - dated 31 March 2000.

+ Extract from AIAL Board Report on Revaluation as a Basis for Selling Charges - dated 8 August 2000.

+ Auckland International Airport Limited Valuation Issues Report, commissioned by Board of Airline Representatives (R N Taylor) dated September 2000.

+ Ernst & Young Memo - Valuation of Airport Land dated 21 July 2000.

+ Ernst & Young Principles Related to Auckland International Airport Limited's Responses to Air New Zealand Consultation Process - dated 28 March 2000.

+ Ernst & Young Memo - Seawall - Dated 22 November 1999

+ Ernst & Young Report - Valuation Issues Arising from Consultation - dated 8 May 2000.

+ Ernst & Young Report - Valuation and Related Issues - dated 5 July 2000.

+ Ernst & Young Report - Responses to Professor Jerry Bowman's Review and Air New Zealand's Third Interim response of 1 August 2000 - dated 3 August 2000.

+ Ernst & Young Review of Brattle Group Asset Valuation and Pricing Paper - dated 4 August 2000.

+ Ernst & Young Memo - Valuation of Airport Land - dated 7 August 2000.

+ Auckland International Airport Limited - Landing Charges and the Airport Development Charge - ADC Document 210900

+ Seagar & Partners DCF Assumptions and Westney Trust Sale and Purchase Agreement - dated 22 June 2001.

4.0 Abbreviations

The following abbreviations are utilised in this report to identify the major parties:

- New Zealand Commerce Commission – CC.
- TelferYoung – TY.
- Christchurch International Airport Limited – CIAL.
- Auckland International Airport Limited – AIAL.
- Wellington International Airport Limited – WIAL.
- Air New Zealand – ANZ.
- Ernst & Young – EY.
- Crighton, Seed & Associates Limited – CS.
- Seager & Partners Limited – SP.
- Edward Rushtons Pty Limited – ER.

5.0 Legislation

The primary legislation relative to disclosure regulations is contained in the Airport Authorities Amendment Act 1997 (the Act). Under the Act airports are required to disclose the methodology used to value the assets included in the disclosure financial statements.

Regulation 11 requires that the use of any methodology specified by the guidelines is disclosed. Regulation 13 gives the Secretary of Transport the power to issue guidelines on any topic which includes:

- An estimation of the cost of capital.
- The allocation of costs and revenue between identified activities, and
- Valuation methodology.

6.0 Identified Airport Activities

The Act defines identified airport activities as:

+ Aircraft and freight activities.
+ Specified passenger terminal activities.
+ Airfield activities.

The Act further defines each of the components as follows:

"Airfield activities" means 'the activities undertaken (including the facilities and services provided) to enable the landing and take-off of aircraft; and includes;

(a) The provision of one or more of the following:
  (i) Airfields, runways, taxiways, and parking aprons for aircraft:
  (ii) Facilities and services for air traffic and parking apron control:
  (iii) Airfield and associated lighting:
  (iv) Services to maintain and repair airfields, runways, taxiways, and parking aprons for aircraft:
  (v) Rescue, fire, safety, and environmental hazard control services:
  (vi) Airfield supervisory and security services:

(b) The holding of any facilities and assets (including land) acquired or held to provide airfield activities in the future (whether or not used for any other purpose in the meantime):'

"**Aircraft and freight activities**" means 'the activities undertaken (including the facilities and services provided) to enable, within a security area or areas of the relevant airport, the servicing and maintenance of aircraft and the handling of freight transported, or to be transported, by aircraft; and includes-

(a) The provision within a security area or areas of the relevant airport, of any one or more of the following:
  (i) Hangars:
  (ii) Facilities and services for the refuelling of aircraft, flight catering, and waste disposal:
  (iii) Facilities and services for the storing of freight:
  (iv) Security, customs and quarantine services for freight:

(b) The holding of any facilities and assets (including land) acquired or held to provide aircraft and freight activities in the future (whether or not used for any other purpose in the meantime):'

"**Specified passenger terminal activities**" means 'the activities undertaken (including the facilities and services provided) in relation to aircraft passengers while those passengers are in a security area or areas of the relevant airport; and includes-

(a) The provision, within a security area or areas of the relevant airport, of any one or more of the following:
  (i) Passenger seating areas, thoroughfares, and airbridges:
  (ii) Flight information and public address systems:
  (iii) Facilities and services for the operation of customs, immigration, and quarantine checks and control:
  (iv) Facilities for the collection of duty-free items:
  (v) Facilities and services for the operation and security and Police services:

b) Any activities undertaken (including the facilities and services provided) in a passenger terminal to enable the check-in of aircraft passengers, including services for baggage handling:

(c) The holding of any facilities and assets (including land) acquired or held to provide specified passenger terminal activities in the future (whether or not used for any other purpose in the meantime);-

But does not include the provision of any space for retail activities.'

The primary focus on this report is **"Airfield Activities"**.

7.0 Asset Classification

The classification of assets into specific asset classes is an essential part of the process in establishing the appropriate methodology for valuing airport land.

The vast majority of the land associated with AIAL, WIAL and CIAL land is of a special nature given that the land supports specialised aviation activities.

However, all three international airports support both non-specialised and specialised activities.

7.1 Non-specialised

Land considered to be non-specialised would include:

+ Land associated with activities not classified as identified airport activities.
+ Land held for future commercial development.

7.2 Specialised

Land deemed to be specialised would be:

+ Land beneath identified airport activities.
+ Land held to provide identified airport activities in the future.

Establishing a classification of specialised versus non-specialised assets is essential as this dictates the valuation methodology to be employed.

Specialised assets in their existing use are seldom if ever sold on the open market except as a part of a total business or a going concern. They only have utility to particular users, and are often specialised due to their geographical location for operational or business reasons.

Assets can also be considered in terms of their relationship with identified airport activities in terms of core and non-core assets.

In terms of the Act the core activities are those needed to carry out the central business function and are basically defined within “identified airport assets”. They incorporate the assets that are used to undertake what is often termed the non-contestable activities of the airport company. A summary of core activities relative to the definitions in the Act follows:

Airport Authorities Amendment Act 1997		**Core**
Airfield	+	Airfields, runways, taxiways, and parking aprons for aircraft
	+	Facilities and services for air traffic and parking apron control
	+	Airfield and associated lighting
	+	Services to main and repair airfields, runways, taxiways, and parking aprons for aircraft
	+	Rescue, fire, safety, and environmental hazard control services
	+	Airfield supervisory and security services.
Aircraft and freight	+	Freight facilities
	+	Buildings and space occupied by customs and quarantine, and
	+	Areas occupied by and used in aircraft servicing.
Specified terminal activities	+	Public areas and check in facilities
	+	Airbridges and executive lounges
		Customs, immigration and agricultural control
		Baggage handling, and
	+	Terminal security
	+	

8.0 Contestable Versus Non-Contestable Markets

The contestable markets are those in which there are a number of participants in the market both in terms of supply and demand. Goods and services prices are determined in a competitive way and there are no significant impediments whether they be regulatory, geographical or physical to enter to, or exit from, the market.

In non-contestable markets there is usually only one supplier of the service due to regulatory, geographical or physical reasons.

Identified airport activities as defined in the Act are clearly non-contestable.

The definition of asset classes between contestable and non-contestable is an important aspect as it drives the appropriate methodology used to establish the value of the asset. A Land Value Concept – Flowchart is attached, as **Appendix 2.**

9.0 Standards

9.1 Valuation

The New Zealand Institute of Valuers (NZIV) standards provide the guidance for valuation across all asset classes.

The primary valuation standards are as follows:

+ Valuation Standard No. 1 (VS1) – Market Value Basis of Valuation
+ Valuation Standard No. 2 (VS2) – Valuation Bases Other Than Market Value
+ Valuation Standard No. 3 (VS3) – Valuation for Financial Statements

The valuation standards provide guidance to the valuer relative to definitions, valuation standards and a cross reference to accounting terminology.

The valuation basis for non-specialised assets is driven by Valuation Standard No. 1.

Valuation of specialised assets and requirements for financial reporting is covered in Valuation Standards 2 and 3.

NZIV standards define or refer to terminology such as:

+ Market value for an existing use. (MVEU)
+ Depreciated replacement cost. (DRC)
+ Optimised depreciated replacement cost. (ODRC)
+ Specialised assets.
+ Highest and best use.

9.2 Accounting Standards

Accounting standards for the valuation of fixed assets including land and buildings are detailed in the Chartered Institute of Accountants Standards, SSAP 28 Accounting for Fixed Assets.

Investment properties are dealt with in Accounting Standard SSAP 17.

10.0 Institute of Chartered Accountants of New Zealand – Financial Reporting Standard No. 3 – FRS 3

The Institute of Chartered Accountants of New Zealand approved on 2 March 2001, Financial Reporting Standard No. 3 (FRS3), Accounting for Property, Plant and Equipment.

This standard results from the revision of the existing Accounting Standards SSAP 28 and SSAP 3 Accounting for Depreciation.

From a valuation perspective the major changes introduced by FRS3 are as follows:

- A shift from **existing use value** to **fair value**.
- The fair value of specialised asset is estimated by depreciated replacement cost but any land component must be included at fair value.
- Gives guidance on the optimisation and the estimation of depreciated replacement cost.

The major change with respect to the valuation of land has been the shift to 'fair value' from 'market value existing use'. FRS3 defines fair value as: "*The amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arms-length transaction. Fair value is deemed to be synonymous with market value, open market value and current market value.*"

In relation to specialised properties, FRS3 defines the depreciated replacement cost of specialised property as being: "*the sum of the fair value of the land plus the current gross replacement cost of improvements less an allowance for physical deterioration and optimisation for obsolescence and relevant surplus capacity.*"

FRS3 rules out optimisation of the value of the land in terms of its size or location even if it is under-utilised. For valuations as at 30 June 1999 and 31 March 2000 the base of land valuations was MVEU.

11.0 Methodology

The valuations commissioned by the airport companies all say they have been completed in accordance with:

+ New Zealand Institute of Valuers (NZIV) Valuation Standards.
+ International Value Standard Asset Committee (IVSAC) Standards.
+ Relevant Chartered Institute of Accountants Standards.

11.1 Auckland International Airport Limited - AIAL

No formal valuation methodology or valuation handbook was established for AIAL, prior to the 30 June 1999 valuation, but the valuers conferred before and during the process.

In the Seager & Partners (SP) valuation of 29 July 1999 the valuation approach is discussed in the report and it is stated that "*The basis upon which we have assessed the value of the airfield and other land is on an assessment of the cost which AIAL would have incurred had it acquired an equivalent parcel of land with similar locational attributes and amenity on the open market in order to develop an equivalent international airport."* The value of this land has been assessed based upon a consideration of the following:

+ The amount which AIAL would need to pay in the open market to match the price which an independent purchaser could afford to pay to acquire an equivalent parcel of land in order to undertake a hypothetical highest and best use alternative development, the discounted cashflow (DCF), approach. Based on this land value SP have drawn an average hectare rate for the whole of the airport land in addition to which has been added the cost to achieve airport usage, excluding however the airport improvements on the land.

+ A comparison of large residential/industrial and commercial land sales in the Auckland region.

+ The costs incurred by AIAL in acquiring land around the airport in recent transactions.

+ The implied land value based upon ground rentals within the airport zone 4 (unspecialised/contestable market land uses).

EY in a report dated 20 September 1999 have undertaken a review of the SP report on behalf of AIAL.

EY concluded that the basis of valuation adopted is MVEU.

In relation to the land EY concluded that the vast majority of AIAL's land is of a specialised nature given that it supports aviation activities. EY then make the statement:

"Having regard to both valuation standards and valuation guidelines the land value has reflected:

- *Its existing (or potential in the case of the secondary runway) use as an airport*
- *The current market buying price of the land in its current use, and*
- *Current reproduction cost of the same service potential for future benefits of the existing asset."*

EY concluded that "*…we are confident that the valuations are supportable and thus are sufficiently robust to withstand close scrutiny by stake holders and airline users as required under the consultation process*."

11.2 Wellington International Airport Limited - WIAL

The asset valuation dated 31 March 2000 prepared by EY for WIAL contains a document identified as the Wellington International Airport Limited Asset Valuation Handbook prepared in July 1999.

This is a comprehensive document which provides the following:

- Asset definitions
- Asset classifications
- Valuation concepts
- Valuation methods
- Specific asset classes
- Capital expenditure
- Summation/allocation
- Recoverable amount test
- Recommended valuation approach.

Comment on specific aspects follows:

Asset Definition/Classification

The handbook develops an asset classification which in relation to land divides the asset between operational assets and non-operational assets.

In terms of operational assets the land is split between specialised and non-specialised as follows:

+ **Specialised:**

+ Land beneath activities identified for airport activities.
+ Land held to provide identified airport activities in the future.

+ **Non-Specialised:**

+ Land beneath activities not classified as identified airport activities.
+ Land held that is not intended to be used for the future provision of identified airport activities.

Valuation Principles

Having established the asset classification in terms of land a model is then developed which establishes the appropriate valuation methodology.

In terms of specialised assets the focus is on ODRC to arrive at MVEU.

The document establishes that the vast majority of WIAL's land is of a specialised nature given that it supports aviation activities.

The handbook therefore requires that the land value should reflect:

+ Its existing use as the airport.
+ The current market buying price of land and its current use, and
+ Current reproduction costs to the same service potential or future economic benefits of the existing asset.

To assess the value of the specialised land at WIAL it recommends that the following approaches should be undertaken:

+ Market comparables using local commercial land sales as a bench mark to apply to Wellington International Airport.
+ Alternative use plus airport costs in an assessment of the underlying block land value assuming the most likely alternative uses of the land to which is added the cost to enable the land to be used for airport purposes. This would include obtaining approvals, formal development and holding costs.

+ Brownfields. A valuation using cost rates associated with the construction/renewal of an in use asset in a developed location.

11.3 Christchurch International Airport Limited – CIAL

The valuation methodology for CIAL has been developed by CS dated November 1998.

This document develops a valuation methodology for CIAL and includes:

+ The definition of airport activities.
+ Specialisation.
+ Core and non-core assets.
+ Optimised depreciated replacement cost.
+ Valuing sealed surfaces.
+ Valuing land assets.
+ Valuing non-contestable building assets.
+ Valuing contestable assets.

Comments on specific aspects are as follows:

Core Assets

CS developed a valuation rule that requires all non-surplus assets within the core to be valued at ODRC. All surplus assets are to be valued at net realisable value (NRV).

Valuing Land Assets

The valuation methodology requires that land currently owned by CIAL as a provider of identified airport activities (as defined in the Act) is to be valued at MVEU.

All other land not currently used to provide identified activities, but in some cases held for future development, is to be valued at market value – highest and best use.

The document states that "*…the land employed in providing the identified airport activities is part of the specialised assets. As such the land should be valued at optimised replacement cost (ORC), in other words the market value of the land in its existing use. However, the problem in assessing this value is that there may be few, if any, comparable sales of this type of land in this form of specialised use. For example, there may be no examples of sales of airport runway land that are suitable for use as comparable data for assessing the ORC of the airfield land.*

Therefore, in assessing the market value – existing use of the land, the valuer shall take account of the existing intensity of use of the land and attempt to match the land

with sales of comparable land in terms of size and use. This involves assessing the value of the land as if it were part of a proxy market. The key point is that the value of the land in its existing use should reflect the principle of the market value of the land that would offer similar utility in a similar intensity or scale of use."

As part of this process the valuation methodology breaks the land down into proxy zoning characteristics as shown in the Christchurch City District Plan. The categorisation is as follows:

Land Use Category	**Proxy Zoning**	**Valuation Approach**
Airfield	Rural 6 (Grassland) zone	Market value – existing use
Aircraft and freight	Business 3B (Inner City Industrial Buffer) zone	Market value – existing use
Specified Terminal Activities	Business 2 (Local Centre) zone	Market value – existing use
Non contestable Assets	-	Market value – highest and best use

11.4 Summary

The valuations undertaken for CIAL and WIAL refer directly to the New Zealand Institute of Valuers Standards and conclude that for non-contestable assets the most appropriate approach is MVEU. Detailed valuation handbooks/methodology have been developed for these two airports.

In relation to AIAL a valuation methodology/valuation handbook has not been prepared. However, EY in their audit of the valuation have concluded that the basis of valuation adopted is MVEU.

The valuation methodologies are in line with the New Zealand Institute of Valuers Standards. As the valuations preceded Financial Reporting Standard No. 3 the impact of the "fair value" concept has not been considered.

It would appear that the methodologies utilised by all three valuers generally correspond with the concept of fair value as the valuers have attempted to establish:

- Highest and best use
- Reflect resource management issues
- Consider sales of land of similar intensity and scale.

They have attempted to establish a “proxy” current market value, which equates to fair value.

No attempt was made to optimise the land in the original valuations.

12.0 The Valuations

12.1 Auckland International Airport Limited - AIAL

The valuation of airport and other land by SP was distributed in an executive summary form and relates to the valuation completed on 29 July 1999 as at 30 June 1999. It is termed *"A market valuation of the Auckland International Airport land at Mangere for the existing use by the company."*

The report is supplied in an executive summary format of findings under the following headings:

+ Airport Land
+ Valuation Approach to Airport Land & Other Land
+ Residual Cashflow Approach
+ Analysis of Large Land Sales
+ Valuation Summary as at 30 June 1999
+ Appendices

The appendices set out the valuation exercise and comprise:

+ Appendix 1 - Valuation Summary
+ Appendix 2 - Schedule of Land Sales
+ Appendix 3 - Discounted Cashflow & Assumptions
+ Appendix 4 - Auckland Residential Section Sale Analysis & Growth Rates
+ Appendix 5 - Bulk Land Sales Evidence
+ Appendix 6 - Zone & Site Lands

Valuation Summary as at 30 June 1999

The market valuation of the land for the existing use of **$323,000,000** is set out in the following table confirmed by EY as MVEU.

Description	Land Area	Seagar Land Value per ha.	Adopted Value
Zone One	923.0024 ha	155,4723/ha	$143,501,000
Zone Two	23.0879 ha	1,338,625/ha	$30,906,000
Zone Three	15.2635 ha	762,934/ha	$11,645,000
Zone Four	26.8551 ha	463,786/ha	$12,455,000

Description	Land Area	Seagar Land Value per ha.	Adopted Value
Zone Five	127.5967 ha	382,251/ha	$48,774,000
Zone Six & Seven	606.8173 ha	125,265/ha	$76,013,000
Total Land Value	**1722.6228 ha**	**187,675/ha**	**$323,294,000**

Rounding has been adopted in the calculations.
SP have divided the land into 7 functional zones adopted as a basis for valuation. These zones and their descriptions follow:

Zone	Land Category	Area	Valuation Approach
Zone 1	International Airport Runways, Taxiways, Aprons and Approaches including seabed and other land used for specialised aeronautical activities	923 hectares	Market based residual DCF analysis of alternative use and market comparison
Zone 2	Land associated with the international terminal operations including the terminal building and surrounds, public and staff carparking, ancillary commercial activities and services, roading and open space	23 hectares	Market based residual DCF analysis of alternative use and market comparison
Zone 3	Domestic Terminal Operations including terminal building and surrounds, public and staff carparking, ancillary commercial activities, roading and open space	15.25 hectares	Market based residual DCF analysis of alternative use and market comparison
Zone 4	Land associated with the Jet Base and other aeronautical activities of a contestable nature	26.85 hectares	Direct market comparison
Zone 5	Land associated with non-specialised commercial activities including investment buildings and land leased to third parties together with future commercial development land	127.6 hectares	Direct market comparison
Zones 6 & 7	Land held for future airport expansion associated with aeronautical and other specialised activities	606.8 hectares	Market based residual DCF analysis of alternative land use and market comparison

Zone	Land Category	Area	Valuation Approach
	Total Land Area	**1722.6 hectares**	

The pricing of most airfield land is within the Zone 1 category, the valuation of SP being set out below:

Zone One Summary

Description	Land Area	Seagar Land Value per ha	Adopted Value
Airfield (Runways, Taxiways & Aprons)	278.4692 ha	$305,000/ha	$84,933,000
Wiroa Island	40.3600 ha	$115,000/ha	$4,641,000
Airport Eastern Approaches	170.8081 ha	$70,000/ha	$11,957,000
Sea Bed	430.1800 ha	$70,000 /ha	$30,113,000
Ground Handling	3.1851 ha	$650,000/ha	$2,070,000
Seawall			$9,787,000
Total Value	**923.0024 ha**	**155,472/ha**	**$143,501,000**

Rounding has been adopted in the calculations, which do not include the Zone 6 & 7 Future Airfield land of 449.07 ha.

A letter dated 25 June 2001 was received from AIAL, summarising the concessions made to the airlines on land valuation issues for landing charges, copied to the Commerce Commission. These concessions are described as pragmatic but care has been taken by AIAL not to affect the principles of the methodology.

Zone One Summary After the Consultation Process – AIAL

As at 22 August 2000 after extensive consultation the current position of AIAL with respect to airport charging compared to the original SP valuation is set out below as advised by AIAL.

AIAL Asset Valuation - Land - as at 30/06/99 Per Valuers Report Zones 1, 6 & 7			
Description	**Land Area**	**Seagar Land Value per ha**	**Adopted Value**
Zone1			
Airfield (Runway, Taxiways & Aprons)	278.4692 ha	$305,000/ha	$84,933,000
Wiroa Island	40.3600 ha	$115,000/ha	$4,641,000
Airport Eastern Approaches	170.8081 ha	$70,000/ha	$11,957,000
Seabed	430.1800 ha	$70,000/ha	$30,113,000
Ground Handling	3.1851 ha	$650,000/ha	$2,070,000
Seawall			$9,787,000
Zones 6 & 7			
Future Airfield Land	449.0700 ha	$140,000/ha	$62,870,000
Total Value	923.0024 ha		**$206,371,000**

AIAL Asset Valuation - Land For AIAL pricing landing charges only as at 22/08/00 Only Zones 1, 6 & 7			
Description	**Land Area**	**Land Value per ha**	**Adopted Value**
Zone 1			
Airfield (Runway, Taxiways & Aprons)	351.7205 ha	$305,000/ha	$107,274,000
Wiroa Island	40.3600 ha	$70,000/ha	$2,825,200
Airport Eastern Approaches	170.8081 ha	$70,000/ha	$11,957,000
Seabed - titled only	140 ha	$70,000/ha	$9,800,000
Ground Handling	3.1851 ha	650,000/ha	$2,070,000
Seawall (included as Civil Works)		Nil -transferred	Nil - transferred
Zones 6 & 7			
Future Airfiled Land	262.551 ha	140,000/ha	$36,757,000
Total Value			**$170,683,200**

Rounding has been applied.

The consultation process and decisions to date requires some elaboration.

There has been a major variation in the valuation used for landing charges to the reclaimed areas of the seabed, reclassified as airfield land, to reflect that at least two areas reclaimed were omitted from the original valuation. The addition is **$22,341,000**.

Part of the titled seabed area and all of the untitled seabed has been eliminated for pricing purposes; an adjustment downwards of **$20,313,000**. [

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The Wiroa Island valuation was reduced from $115,000 per hectare to $70,000 per hectare, a reduction in value of **$1,816,200**. There was no adjustment to Airport Eastern Approaches values.

The Seawall has been deleted from the valuation of the land and included as a civil work.

A letter from AIAL also refers to future airfield land included as part of Zones 6 & 7 for pricing purposes. The table below sets out the SP valuation summary of Zones 6 & 7 land within which the future airfield has been included, totalling 449.0770 hectares.

Description	**Land Area**	**Seagar Land Value per ha**	**Adopted Value**
Squash/Proshop/Fitness Centre	0.1184 ha	$75,000/ha	$9,000
Aviation Country Club	43.5016 ha	$75,000/ha	$3,263,000
Undeveloped Commercial Land Outside Designation	37.2036 ha	$75,000/ha	$2,790,000
Commercial Undeveloped Land near Boundary	44.1493 ha	$120,000/ha	$5,298,000
Remaining Seabed	29.8126 ha	$35,000/ha	$1,043,000
Future Airfield	449.0700 ha	$140,000/ha	$62,870,000
Residential Properties Outside Designation	**2.9618 ha**	$250,000/ha	$740,000
Total Value	**606.8173 ha**	**125,625/ha**	**$76,013,000**

Rounding has been adopted in the calculations.

The AIAL "valuers" meeting document of June 2001 includes as an appendix the Land Areas 1 Plan as at February 1999, Drawing No. D1623-1. The future airfield land has been separated into three areas labelled "A", "B" and "C", which together on the plan total 449.4088 hectares. During the consultation process, Areas A & B were removed, leaving only the second runway Area C, inclusive of land reserved for future terminal expansion.

The areas adopted for the valuation differ marginally from the plan. A total of 191.856 hectares at **$26,855,000** relating to commercial and aircraft service areas was removed from the valuation for airport charging purposes as per the AIAL letter of 25 June 2001 and an area of 3.1975 hectares for future terminal expansion was removed at a value of $448,000. The price per hectare remained unchanged in the consultation process, from AIAL's perspective, and the residual value for pricing purposes should have been included presumably at $35,567,000 as follows:

Future Airfield Zones 6 & 7 summary	449.0700 ha @ $140,00/ha	$62,870,000
Removed from Future Airfield Commercial & Aircraft Services Area & Future Terminal Expansion land and terminal land removed		$27,303,000
Residual Area Included for Pricing		$35,567,000

This compares with the actual value included for pricing advised of **$36,757,000**.

The above summarises as best possible the residual position of AIAL on landing charges with respect to its valuation prepared as at 30 June 1999 utilised for airport pricing purposes. AIAL advise that they reserve their position with respect to the SP and EY valuation advice contained in the SP valuation.

Valuation Approach to Airfield Land & Other Land – SP

The valuation report of SP gave consideration to the following:

+ An open market highest and best use alternative development value, demonstrated by the discounted cashflow DCF approach
+ A comparison of large residential/industrial and commercial land sales in the Auckland region
+ The costs incurred by AIAL in acquiring land around the airport in recent transactions
+ Implied land values based upon ground rentals for unspecialised/contestable market land use

The airport pricing consultation process addresses the first three of these considerations.

The residual cashflow approach by DCF analysis appeared to be the primary basis of valuation by SP, reflecting an adjusted rate of **$140,000/ha** of raw undeveloped land based on a discount rate of 25%, a 20 year development period, nominal growth of 3.5% and a 7½year planning and consent period. The value was escalated at 9% per annum to represent the cost to AIAL of acquiring an equivalent area of unimproved land on the open market. A further allowance of **$32,000/ha** was added for levelling and contouring the land.

A revised DCF was presented over a shorter 15 year period development timeframe, a higher discount rate of 30% and a smaller number of waterfront sites following criticism of the original assumptions. At the valuers meeting of 21 and 22 June 2001, the DCF approach assumed lesser prominence than in the original valuation and was described as a check that did not drive the valuation process. A check on the DCF calculations by an Airlines adviser confirms their arithmetic accuracy within 1%.

The original valuation refers to an analysis of large land sales and in particular three transactions:

+ The acquisition in 1997 of a 25 hectare block of land on the corner of Westney Road and George Bolt Drive by AIAL at a price of **$3.32 million including GST** or **$132,800/ha**, equivalent to **$118,044/ha**, GST exclusive.
+ The swap of 18.401 hectares to AIAL within the designated airport zone in April 1999 for **$1.71 million excluding GST,** in exchange for 11.8173 hectares outside the designated airport zone. The swap price to AIAL represents **$92,960/ha** excluding GST for land of regular shape with no road frontage.
+ The acquisition in 1997 on behalf of AIAL of a block of 110.51 hectares in four parcels situated in Puhinui Road at the eastern approaches for an average price of **$65,000/ha,** being land with a special Heritage zone, considered by SP to represent 50% of a derived value rate for the airport zoned land.

These are the primary sales referred to that appear to have driven the base land value adopted of **$140,000/ha** for the airport zoned land and the land at the eastern approaches to the airport.

Whichever process was used to drive the **$140,000/ha** based land value, this figure was then escalated on a "holding cost" approach plus civil works of **$32,000/ha** to arrive at the airfield (runways, taxiways and aprons) land value of **$305,000/ha**.

Seabeds were taken at 50% of the equivalent land value rate of $140,000/ha, airport approach land at 50% of equivalent land value rate of $140,000/ha and Wiroa Island at $140,000/ha discounted by 15%-20%. No explanation was given to justify the ground-handling rate of $650,000/ha in the main body of the report. The discounts adopted were not explained in detail.

EY reviewed the land valuation, confirming the basis as MVEU using optimised depreciated replacement cost - ODRC for Specialised Assets. EY confirmed that the vast majority of AIAL's land is of a specialised nature and confirmed that the land value reflected:

+ Its existing (or potential in the case of the second runway) use as an airport;
+ The current market buying price of the land in its current use; and
+ Current reproduction costs of the same service potential or future benefits of the existing asset

In assessing the value of specialised land EY stated that the valuers have had regard to the following approaches:

"1.Market Comparables
2.Alternative Use plus Airport Costs in bringing to existing use
3.Greenfields
4.Brownfields"

Edward Rushton Pty Australia Ltd – ER Report

The genesis of criticisms of the AIAL Airport valuations are contained in the summary of investigations on the CIAL and AIAL report of ER dated 2 February 2000. The conclusion of ER is:

+ **"***We consider the valuation is considerably overstated both in the land valuation"*

and

+ **"***We do not consider the valuations to be supportable and they are not sufficiently robust to withstand close scrutiny."*

ER conclude that the underlying zoning of the land is of a rural nature and must be for valuation purposes regarded as such.

Later evidence was produced in June 2001 on behalf of BARNZ, prepared by Harrison Grierson Consultants Limited, on planning issues relating to certain assets, being Wiroa Island, approach land and parts of the seabed. Harrison Grierson were not asked to address the underlying assumption of future urban potential as that matter had already been addressed on 2 November 1999 by Manukau Consultants Limited, as an appendix to the ER report.

The two questions framed to Manukau Consultants Limited by ER and their consultants were:

"*Firstly, is the hypothesis that an airport zone infers that if the land were not used for airport purposes it would automatically attract a normal urban use and therefore the approach to value as discussed above is appropriate or, is it more reasonable to accept that the alternative use for the land is not as a subdivision but likely to reflect the surrounding rural type usage. If the land was urban could it be immediately subdivided or would it involve a number of years in obtaining necessary consents/approvals?"*

The second question was related to whether or not the approach adopted for the treatment of the land is reasonable, framed in the following question:

> "*Second to that and obviously this requires far more conjecture {what} is your opinion of what the land might be had it not been utilised or designated as airport?"*

The conclusion of Manukau Consultants Limited was that the airport zone provides for only limited permanent residential accommodation.

While acknowledging permitted and discretionary uses that are not required to be associated with the operational needs of the airport are generally of a rural or commercial nature, residential development and subdivision is not permitted. Other uses permitted include travellers accommodation, hotels, service stations, taverns, offices and farming (described as a small range). With respect to the "Mangere-Puhinui Rural Zone" and the "Mangere-Puhinui Heritage Zone" Manukau Consultants Limited state: "… *those zones allow very little scope for urban activity and all permanent residential accommodation must be related to farming activity."*

Reference is made to the Metropolitan Urban Limits defined in the Auckland Regional Policy Statement and a conclusion is drawn that had the airport zoning never existed it is most unlikely that the land would be zoned for an urban purpose given present day conditions and circumstances. (emphasis added).

The summary of Manukau Consultants with respect to the first question was that:

> *"The existence of the Airport zone and designations does not infer that if the land was not used for airport purposes, it would automatically attract a normal urban use."*

And in the event of withdrawal of the designation:

> *"…the range of urban uses that could be carried on independently from an airport operation are extremely limited and certainly do not extend to residential subdivision of any portion of the land currently designated for airport purposes. Some subdivision for business purposes could be undertaken within the airport zone itself but the range of activities which could occupy the resultant lots is extremely limited."*

With respect to the second question:

> *"… It is likely, in our opinion, that the current zoning of the land would be similar in nature to the "Mangere-Puhinui Rural Zone" in the Proposed District Plan if the airport had never existed on the site."*

That opinion was prefaced earlier in the document by the statement given present day conditions and circumstances. Undoubtedly there would be a range of opinions and, given the circumstances and location of the property it is difficult to contemplate that some form of relatively intensive urban use would not have eventuated, well before now, had the airport never existed. In any event, the process undertaken by SP was to formulate a value based on a wide range of sales evidence for a variety or urban uses, not just residential. Many sales considered did not have a zoning for residential but had a future zoning for residential or business activity use.

The alternative approach of Manukau Consultants, adopted by ER, postulates that almost the whole of the Mangere area would have been frozen as a rural zone, principally because of the quality of the soils, ideal for supporting a pastoral or horticultural unit or an economic farm unit. This would appear inconsistent with the existence of extensive residential and business activity subdivision that has occurred in Mangere, including land nearby used extensively for horticultural and pastoral purposes. The pressure on rezoning has not been recognised by Manukau Consultants Limited for land close to a large urban area such as Auckland.

ER substantially criticised the DCF approach to value and their criticisms are valid in terms of a number of the DCF assumptions. These DCF assumptions include

+ the acceptance of immediate hypothetical subdivision development
+ the take up of sections
+ the discount rate, and
+ the requirement for "sensitivity analysis" over a range of the assumptions including timing, use allocation, sale prices, growth, inflation and discount rate.

However, it is not particularly helpful to be critical of an approach which attempts to extend the range of options under consideration under the MVEU methodology unless an alternative is put in its place. It is an acceptable valuation principle that more than one method should be looked at, if possible, and the major failing of the ER report is that the approach taken would inevitably result in a potential downgrading of values, which is not supported by a market analysis. The ER approach would kindly be described at best as, unhelpful.

The validity of the ER comments is more appropriate in terms of:

+ The application of holding costs to inflate the base level of land value

+ The value of the eastern approach land which retains a limited economic value to AIAL in terms of rent, but otherwise acts as approach land
+ The inclusion or exclusion of seabed land
+ The relevance of including the second runway land
+ The inclusion or exclusion of the seawall

TY Comments

Each of the above is now discussed following a consideration of the arguments put forward for and against the valuations for AIAL. No attempt has been made to develop all of the arguments, but to indicate the parameters of viewpoint and to draw a conclusion in terms of MVEU for the land.

Sales Evidence

Within the immediate vicinity of Auckland Airport there is limited sales evidence upon which to rely. A key sale is that of the 25 hectare block of land purchased by AIAL at a price of $3.32 million inclusive of GST, equivalent to $132,800/ha. The process of establishing market value by the airport company and the vendors was robust to the extent that it involved valuations by both parties and a peer review process. [

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+ **[ ]**
+ **[ ]**
+ **[ ]**
+ **[ ]**

The price is stated as GST inclusive, but this is probably not correct from the perspective of AIAL as MVEU would be the value to AIAL, which is GST exclusive and therefore **$118,000/ha** was the more appropriate figure for comparison rather than **$132,800/ha** which was the value to the vendor who was not GST registered at the time. The issue of captive parties to price determination was not discussed, but is considered relevant as the value/price does not comply with a market value definition.

It was necessary for SP to go beyond the immediate location and analyse sales to determine the range of potential values arising within a range of market evidence. It is not the intention of this peer review to provide a valuation and further debate may be appropriate in terms of a price control or consultation mechanism at the level of values adopted, but the methodology of considering comparable sales over a wide area is sound.

Holding Costs

The choice of adjusting for holding costs was an unfortunate terminology and method of inflating the base level of value to an airport zone value. Commentators have been particularly critical of the approach. Bowman states:

> *"The economic value of past period holding costs will be impounded in the current market value of the land. The procedure used by Seagar whereby they escalate their current value of the land by adding future holdings costs is wrong."*

Taylor in the BARNZ report dated September 2000 is critical of the approach and in particular:

"5.7 The primary issue is that AIAL and Seagar have used the wrong date for determining land values and this has been compounded by the use of nominal rather than real returns."

and

"5.10 Given therefore that in AIAL's view it would take 7.5 years to develop the airport, the original cost of land must have been the notional cost of land in 1992 (based on the effective valuation date being 30 June 1999)."

Taylor then demonstrates in Section 8 a deflator method of calculating the land value to which holding costs are added. This arithmetic approach to the assessment of a base value of land bears no relationship to MVEU of land and carries out the identical exercise in reverse that SP are accused of assessing as a value for the future. If the base level of land value is an appropriate approach from which to add "holding costs", then actual land values need to be assessed 7 years earlier in January 1991. However, it is highly improbable they would have been the $78,547/ha as demonstrated by the Taylor deflator model. The above is an illustration why arithmetic exercises without an understanding of valuation principles and the market don't work and are not helpful.

ER reject the process of applying holding charges in their report as follows:

> *"We reject absolutely the method of using a hypothetical long term urban development scheme which in our view and in an independent view cannot occur to arrive at an inflated value and then apply holding charges over a 7 year period further inflating that unsupportable value."*

It appears that ER's concern, being valuers, is more with the level of value to which the holding costs have been applied rather than the principle of applying holding costs. They do not expand on the statement with respect to holding charges.

SP and EY defend the approach by reference to sales evidence of:

+ Urban land with future urban potential being purchased at substantially higher levels of value than rural land
+ AIAL would need to accumulate land over a substantial period of time and incur holding costs to establish an airport at a figure substantially above the base level of value.

In economic terms it is unsupportable to add holding costs to 'current market value' of land in the manner undertaken by SP. However, current market value after adjustment must include the issues of time to accumulate land, obtain consents, planning and anticipation of civil works required to create an airport. The critics of the SP approach do not appear to have accepted in their approach, or anywhere else addressed the difficulty of accumulating a large parcel of land to construct an international airport to which no premium for plottage has been added and no discount applied. What may be mathematically illogical incorporates subjectively sound reasoning. The range of sales evidence relied upon covers a period of time ranging from 1997 ultimately through to 2001 and supports the final value level. Extending the sales evidence dates earlier may not have altered the conclusions of SP.

The Seabed

The titles and control over untitled areas of the seabed may have value to AIAL and that is a matter for it to determine for financial reporting purposes. However, at best there would appear to be a slim rationale for including any proportion of the seabed in a valuation for landing charges. [ ]

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+ **[ ]**
+ **[ ]**
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The most compelling argument against seabed inclusion for landing charges is that other airports do not own the seabed in a similar manner to AIAL but this is not seen as a disadvantage and no additional value is added for planning control. For WIAL, no seabed is owned with Lyall Bay and Evans Bay at the opposite ends of the runway. Harrison Grierson Consultants Limited in their report to BARNZ dated June 2001 state at page 10:

> *"…we do not consider it necessary for the seabed to be owned to protect the western approaches. Furthermore, it is the existence of the harbour, rather than ownership of these areas, that assists in the 24 hour curfew free status of the airport"*

For 'pragmatic' reasons, to AIAL all seabed areas have been removed from the valuation for landing charges apart from the western fan of approximately 141 hectares, which is titled, valued, and remains in the calculation.

Another fundamental difficulty with the inclusion of a value for the seabed is that reclamation costs currently exceed the value placed on the reclaimed land by SP. As an example, the recent lagoon reclamation cost was $589,000/ha. This area was later, (after the date of the 30 June 1999 valuation) included at $305,000/ha as part of the airfield land for the purpose of landing charges. By deduction the seabed had a negative value prior to reclamation.

A pragmatic decision by AIAL involved the removal of certain seabed land both titled and untitled for landing charge calculations, and that would appear appropriate. This coincides with the view advanced by Air New Zealand, May 2000 that the seabed has no operational use and no confirmed economic value in its current state. The remaining seabed value should be removed for charging purposes.

Land Held for Second Runway

The principal reason for inclusion of the second runway land in landing charges appears to revolve around the definition of "airfield activities" contained in the Act:

> "*The holding of any facilities and asset (including land) acquired or held to provide airfield activities in the future (whether or not used for any other purpose in the meantime)"*

AIAL maintains that it can demonstrate an actual need for the land. Substantial customers argue that they are asked to pay a return on the second runway land now before it comes into operation. They argue that AIAL will be recovering holding costs twice - once during the period leading up to the second runway becoming operational and a second time as they pay for the MVEU from that point on. That argument does not appear to be fully valid as only the base level of value at $140,000/ha has been adopted. No holding charges are included.

For the purpose of airport charges, AIAL has retained the future airfield land of 262.551 hectares in its calculations, shown as Area "C" on the plan attached to the AIAL "Valuer's Meeting" document June 2001, and has removed Areas "B" and "C" as well as the area for the future terminal. (Drawing No. D1623-1) [

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Seawall

The seawall is now treated as a civil work and an addition to the land value. This is now consistent with the treatment of the seawall at WIAL. The seawall at WIAL is required to protect the land, and the land would otherwise erode if the seawall was not in place and maintained to a high standard.

The suggestion is that if a seawall was not in place at Mangere, an alternative and far more costly exercise would be required to maintain the integrity of the runway land.

Whether or not the land subsumes the seawall will depend on the method of valuing the land. If land is taken to be stable and valued accordingly then the seawall is clearly subsumed and no additional adjustment is required. Conversely, if a "civil works" approach is adopted then the seawall would be required to be recovered in the same manner as levelling of the land for airport use.

Simplistically, if a civil works approach to the valuation had been undertaken such that the seabed had nil value, the reclamation was $589,000/ha and there was an additional cost to construct the seawall then that could indicate a MVEU of the reclaimed portion of the land. This matter will be discussed further below. It was incorrect, on the face of the calculations, to add the seawall to the land value on the basis of an "addition" to the land, and this has been corrected, but no deduction was made to the land value which, without explanation, could be deemed to include the seawall.

Wiroa Island

The arguments relating to Wiroa Island again relate to its utility and service capability. There has been a pragmatic decision by AIAL to include the value of Wiroa Island on the same basis as the inclusion of the eastern approaches land rather than the assessed value. This is a matter of determining its utility in terms of MVEU and no further comment is required.

There appears to have been no argument advanced to exclude the eastern approach land although its value may be a matter of conjecture. It would be irrational if AIAL was required to hold land without a return when it has identified a need relative to the existing airport activities. AIAL should be entitled to recover a satisfactory return on the full land value rather than the figure indicated by the ER summary of investigations. There would be no logical reason for holding the land relating to airport activities and to discount its value below actual sale value or market value, which is synonymous in this instance with MVEU.

Alternative Land Value Assessment

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12.2 Wellington International Airport Limited - WIAL

The valuation of WIAL, in relation to the land and buildings component, has been undertaken by EY with civil works undertaken by Opus International Consultants Limited and ancillary services, plant and equipment undertaken by CB Richard Ellis. No review has been undertaken of the WIAL valuation and the consultation process is not yet due.

The valuation prepared by EY of WIAL is dated 31 March 2000 and is termed an "asset valuation" prepared for disclosure purposes under the Airport Authorities Disclosure Regulations.

The report is supplied in a format comprising:

+ Executive Summary
+ Introduction
+ Description of Property
+ Land Particulars
+ Improvements
+ Valuation Methodology
+ Valuation Summary
+ Appendices

Executive Summary

This briefly details the effective date of valuation being 31 March 2000, the purpose being financial reporting, and a summary of the values which are detailed as follows:

Specialised land	$69,000,000
Specialised ODRC building improvements	$102,468,887
Civil works	$44,487,444
Plant, machinery and equipment	$11,200,000
Total specialised asset value	$227,156,331

Adopt $227,160,000

Introduction

The introduction section refers to the letter of instruction, the valuation purposes and details the organisations undertaking the separate components in the valuation process.

The basis of valuation refers to methodology outlined in the Wellington International Airport Limited Asset Valuation Handbook which is dated July 1999. Reference is made to the definition of market value and MVEU.

This is followed by a discussion on asset classification being the development of the classification between non-specialised assets, being those which are normally traded on the open market, and specialised assets, being those that are not normally traded on the open market except as a total enterprise.

Description of Property

This section of the report details the passengers handled by WIAL and refers to the site as having an area of approximately 110 hectares. Reference is made to the location of the airport in relation to Evans Bay, and Lyall Bay, and the city centre.

Land Particulars

This section contains a schedule of the titles involved at Wellington Airport being a total area of 109.5841 hectares.

The addition has been checked and there is a minor variation of 2225m^2 which may well be an error of addition or transposition. It has no material impact on the value.

Titles have not been sighted. These have not been provided with the valuation report. It is an assumption that the title details, land areas and easements, are indeed correct.

A statement is made in the report that "W*e know that a number of the Certificates of Title are subject to various memorials and encumbrances and these have been considered in our overall value assessment*".

Without details relative to these encumbrances and memorials a comment on their valuation impact is not possible.

Improvements - No comment is made on this section of the report**.**

Valuation Methodology and Summary

Reference is made to the WIAL Asset Valuation Handbook dated July 1999. This is appended to the report.

In relation to the land value it is stated that the vast majority of WIAL land is of a specialised nature and that the market value of this land should reflect:

+ Existing use as an airport
+ The current buying price of the land and its current use, and
+ The current reproduction cost of the same service potential or future economic benefits of the existing assets.

In relation to the non-specialised land assets these should be valued at the highest and best use using market based comparisons.

EY have utilised a "zone" and "hypothetical subdivision" approach to valuation to assess the value of this specialised land.

With the zone approach the land in the airport is grouped into zones according to location, physical characteristics and use. A total of eight zones have been developed with the land value assessed for each zone by applying a rate per square metre derived from comparable market sales. A summary of these zones is as follows:

Zone	Land Area	Average Land Value Rate	Land Value
North eastern industrial	71,822	$43/^{m2}	$3,112,735
Residential	15,100	$131/^{m2}	$1,977,440
Roads and parking	94,585	$60/^{m2}	$5,675,100
Runways and taxiway	542,890	$60/^{m2}	$32,573,400
South eastern industrial	102,884	$72/^{m2}	$6,249,820
Terminal apron and gates	150,918	$60/^{m2}	$9,055,080
Terminal	18,140	$250/^{m2}	$4,535,000
Western industrial	118,384	$50/^{m2}	$5,919,200
Total	**1,114,723**		**$69,097,775**

There appears to be an error in the summary with respect to the South Eastern industrial land. The value adopted reflects $60.74 ^{m2} not $72 $^{m2.}$
Appendix 4 contains details of the zonal land value calculations.

The calculations shown in the land asset zone approach have been checked. There are mathematical errors in the calculations. However, these have no overall material impact on the value adopted.

It is noted that the total land area utilised in the calculations equates to 111.4723 hectares as opposed to the actual title areas detailed as being 109.5841 hectares, a difference of 1.8882 hectares. The difference in the land areas is explained by the fact that the areas utilised for the individual zones and indeed for the hypothetical subdivision approach have been based upon CAD based site plans. These suggest an area somewhat greater than those actually shown in the title. The total land area should coincide with the actual title areas unless they are recorded as being limited as to parcels.

The total land value under the zone approach equates to $69,097,775 from which a deduction of $248,320 is made for the lessee's interest in the land to give a net value of **$68,849,455**.

The report contains a table detailing the ground leases and the calculation of the lessee's interest which incorporates an allowance for the present value of the rental benefit if the contract rent is below market and an allowance for the right of renewal. This is a recognised valuation technique.

The second approach to the assessment of the land value has been to undertake a hypothetical subdivision approach.

EY state that *"As there is a limited market evidence of land sales of equivalent size or location to the WIAL landholding we have also adopted a hypothetical subdivision approach"*.

It is stated that the value derived under this approach represents an estimate of the cost to Wellington Airport of acquiring the subject land in the "open market" based on its alternative highest and best use and the associated resource consents and holding costs.

A gross realisation is derived for the hypothetical development budget with the land being arbitrarily divided into a number of areas comprising Residential 1 land, Residential 2, Industrial and Commercial, reserve contribution and roads.

From the gross realisation, expenses have been calculated with an allowance for profit and risk, etc. This gives the indicative block value as a residual.

EY have then made an allowance to the block value. *"… to achieve the same utility as the WIAL land now enjoys, a lengthy planning and construction process would have to be undertaken following acquisition to arrive at the current position. Thus an allowance is required to be added on to the block value derived to reflect the added cost that would be incurred to enable the land to be used for airport purposes*."

Full details of the subdivisional approach are shown in an appendix to the report.

The approach utilised is a very simple traditional hypothetical subdivision model.

Land value rates for the individual components have been developed as follows:

Residential 1	$215/m^2
Residential 2	$278/m^2
Industrial/Commercial	$125/m^2

Other base assumptions are as follows:

Realisation period	10 years
Selling expenses:	
- agents commission	3%
- legal fees	$500/lot
- profit and risk allowance	25%
- development costs	$26,000/lot
- interest holding costs	8%

When developing the gross income, GST has been deducted from the residential allotments. The industrial/commercial land values are treated as GST exclusive.

From the gross realisation, costs of sale are deducted to arrive at a net realisation of $141,972,307. From this the profit and risk allowance of 25% is deducted to arrive at the outlay of $113,577,846. Development costs in terms of the construction are then deducted together with interest charges which are calculated at 8% of outlay over 50% of the development/realisation period.

The resultant estimated block value calculates at **$38,990,508**. Having established this block value an addition is then made for "existing use as an airport".

These adjustments total **$30,423,345** to derive what is called an existing use land value of **$69,413,853.** The adjustments are broken down into three components comprising:

+ Planning approval
+ Holding costs
+ Financing costs

The planning approval is a lump sum allowance of $4,000,000, which is spread over years 1 and 2 of the total time line of five years. Holding costs are rates, which are calculated at a percentage of the opening balance block value.

Financing costs of $21,332,844 are established over the five-year time horizon being

calculated at 8% of the accumulated cost/value to date.

The two approaches conclude values as follows:

Zone approach	$68,849,455
Hypothetical subdivisional approach	$69,165,532
Adopted land value	**$69,000,000**

TelferYoung Comments - TY

The land valuation prepared by EY is a reasonably straightforward document which establishes the valuation concepts, develops the methodology considered to be appropriate and computates the land value utilising two different methods.

The basis of valuation for the specialised assets is MVEU.

The first method of establishing the land value, the zonal approach is considered to be an appropriate means of establishing the land value and the methodology utilised is robust.

The report details land sales, which have been analysed to establish land value rates for the industrial/commercial component. Although no detailed analysis is shown of residential sales to establish the adopted land value rates, independent analysis by TY confirms that the adopted rates are realistic.

The block sales show a significant range in land values analysed from a low of $\$101/m^2$ to $\$727/m^2$ for multiple sites forming part of the Pak 'n Save development in Kilbirnie. The market evidence analysed has been subject to considerable adjustment to arrive at the adopted land values for the eight zones where average land values range from $\$43/m^2$ in the north eastern industrial area to $\$250/m^2$ in the terminal.

There is insufficient market evidence detailed to explain the conclusions reached to establish the land value rates for individual zones within the airport, but the difficulty of assembling a large body of directly comparable sales evidence is recognised from TY independent investigations and analysis.

The conclusion is that the zonal approach methodology process is sound. However, greater detail of comparable sales analysed and the method of adjustment would be helpful to substantiate the conclusions reached in terms of individual land value rates. Consideration also must be given and comment made on the total scale of the property when all values and land areas are aggregated.

The second approach being the hypothetical subdivision approach is a very simple traditional valuation method.

Central to the whole process is the development of the land value rates to establish the gross realisation. As with the zonal approach greater detail and explanation of the rationale for establishing individual land value rates would be helpful.

In relation to the cost deducted from the gross realisation, agents' fees at 3% have been established on the net of GST amount. It is normal practice, in relation to residential land for agents' fees to be calculated, on a GST inclusive basis. This would increase the deduction for agents' fees by $40,187 using an agency rate of 3%. It is also arguable whether an allowance of 3% for fees is sufficient.

The next major assumption in the hypothetical subdivisional approach is the allowance for profit and risk which is shown at 25% of outlay which equates to 20% of the net realisation.

There is no explanation of why 25% has been adopted. It would appear that the 25% profit and risk allowance has been based upon the "standard" allowance which has been supported by the Courts in a number of circumstances. The allowance for profit and risk must reflect the total outlay involved and the scale of the development. A return of 25% on a subdivision of this magnitude could well prove insufficient.

Development costs have been established at $26,000 per site which would appear to be realistic. Interest charges have been calculated at 8% over half the realisation period of ten years. The total allowance is slightly in excess of $45,000,000, the largest single component in the costings. This approach of calculating interest for half the development period is very simplistic especially when one considers the scale of the proposed development.

The most appropriate way to calculate the land value on a hypothetical subdivision approach is not to use the traditional model as utilised by EY but to use a Discounted Cashflow (DCF) approach which mirrors the analysis process undertaken by most major land developers.

The DCF approach attempts to accurately identify both income and expenditure as they fall over the development period with the cashflows discounted at a rate analysed from sales to establish a present day block value. It is an explicit methodology under which assumptions can be tested by sensitivity analysis.

A strength of the DCF approach is that the timing of the cashflows is identified, reflecting the fact that at the commencement of the subdivision the developer would be primarily faced with cash outflows (expenditure) until such time as sections are available for sale when deposits and settlements will begin to occur to provide income.

The DCF approach is also more robust when considering large-scale developments such as this, over extended realisation periods or where staged development is contemplated.

Having established an estimated block value, whether by use of the traditional hypothetical subdivisional approach and/or the discounted cashflow approach, there is the question of the adjustment for "existing use as an airport" made by EY.

EY have added to the block value to reflect what are termed "added costs" which include an allowance for planning costs, rates, and an interest charge calculated at a rate of 8% on the total outstanding balance on an annual basis.

This approach adds a further **$30,423,345** to the assessed base block value.

EY have calculated these costs over a five-year period. It is assumed the five-year time period reflects a resource management and consultation process together with the construction process. This assumption is not explained.

The interest component is the most significant factor in the calculations. If the period adopted was reduced by two years the simplistically illustrated interest component would reduce by approximately **$5.8 million**. Conversely if the planning period was increased by two years the total cost would increase by approximately **$11.5 million**.

As these interest charges are added back to the block land value there is the implied reasoning that the longer the planning process the greater the value of the resultant block. This focuses the debate on cost versus value exercises. If one takes this to extremes one reaches the logical conclusion that a significantly long planning period will enhance the value. Conversely a shorter planning period reduces value on this cost plus approach. This does not necessarily reflect market reality.

For the above reasons the modified hypothetical subdivision approach as adopted and adjusted is fundamentally flawed and could not be considered to be a robust valuation methodology. Implicit in the assumption under this methodology is that incurring costs automatically creates value. The allowance for interest during this planning/consultation period of over $21,000,000 equates to over 30% of the adopted land value of $69,000,000. The DCF approach recommended as an alternative will address part of the problem but does not fully resolve issues relating to valuation timing, airport holding costs and the difficulties of 'making assumptions' based on limited evidence. The process is also discussed in relation to the AIAL valuation.

12.3 Christchurch International Airport Limited - CIAL

Crighton, Seed & Associates Limited - CS, has undertaken the primary valuation. Edward Rushton Pty Australia Limited - ER, has undertaken a review.

CS Valuation

The land valuation, effective 30 June 1999, is provided under a report dated 19 August 1999. The report is supplied in a format comprising:

+ Introduction
+ Valuation Summary
+ Basis of Valuation
+ Land Area
+ Legal Description
+ Tenure
+ Resource Management
+ Government Valuation
+ Land Use Description
+ Valuation Summary
+ Appendices

Introduction

The report refers to the assessment of the "market value of the land owned by Christchurch International Airport Limited".

The market value is stated as being effective 30 June 1999 at the sum of $83,207,000 plus GST, if any.

The purpose of the valuation is for financial reporting purposes and is stated as being consistent with the NZIV Standards, and New Zealand Institute of Chartered Accountants Standards. It also refers to the definitions of identified airport assets as contained in Section 2 of the Act.

The valuation summary refers to the land as being valued as MVEU and separates the valuation between contestable and non-contestable activities.
Non-contestable values are as follows:

Activity	**Area**	**Value**
Airfield	373.90 hectares	$9,690,000
Aircraft and Freight	44.28 hectares	$24,491,000
Terminal	2.2 hectares	$6,609,000
Total	**420.38 hectares**	**$40,790,000**

The balance of the land area and values relate to contestable activities and land held for future development.

Basis of Valuation

The report discusses standards in terms of the New Zealand Institute of Valuers and New Zealand Institute of Chartered Accountants.

The valuer concludes that the land employed by CIAL in the identified airport activities is part of specialised assets and therefore should be valued at MVEU. It refers to the NZIV definition of MVEU as being *"The market value for an asset based on the continuation of its existing use, assuming the asset would be sold on the open market for its existing use, and otherwise in keeping with the market value definition regardless of whether or not the existing use represents the highest and best use"*.

The valuer's approach has been to consider the existing intensity of use of the land and match this with sales of comparable land in the Christchurch locality in terms of size and use. This involves assessing the value of the land as if it were part of a proxy market.

Land Area

The report details the freehold land as being 726.9858 hectares of which 113.4258 hectare is subject to various ground leases. The land is held in 90 titles.

An appendix to the report contains a description of the titles involved. The addition of land areas has been checked and there is a minor variation of 360m^2 which may well be either an addition error or a transposition error. It has no material impact on the value.

Titles have not been sighted by TY. These have not been provided in the valuation report. There is an assumption that the title details, and land areas, are indeed correct. This comment applies also to AIAL and WIAL.

Appendix 4 to the report, details the land subject to the ground leases. It is reported that these ground leases total 113.4258 hectares.

No documentation has been supplied to support this calculation. The assumption is that it is factually correct.

Although the appendix details the ground leases it does not detail areas, nor does it make a comparison between the contract ground rent and the market rent to establish the lessor's and/or lessee's interest.

Land Use Description

The report categorises the land use in terms of a definition contained in the Act. Having identified the land use activity, various categories have been established to draw comparisons with the greater market. These categories are as follows:

Category 1	Similar intensity to a Business 2 zone.
Categories 2, 5 & 6	Freight handling with air side access. Similar intensity to Business 3B and Business 5 zones.
Categories 1, 3, 4, 6 & 7	Mainly freight handling without air side access. Similar to Suburban Industrial.
Category 8	Airfield area. Similar to Rural 6 (Grasslands) zone.

Having established these categories the valuer has analysed sales for similar land uses to draw an appropriate land value range for each identified category within the airport. Adjustment has then been made for scale.

Indicative land values for each use category have been established as follows:

Category	**Description**	**Comparable Land Uses**	**Land Value Range**
1	Terminal	Prime suburban retail	$400 - $600
2	Aircraft and freight handling intensive	Prime industrial and showroom	$140 - $180
3	Aircraft and freight handling intensive	Suburban industrial	$80 - $120
4	Commercial technology	Suburban industrial	$80 - $120
5	Aircraft and freight handlers extensive	Large industrial	$40 - $60
6	Roading and others	Large industrial	$40 - $60
7	Rural intensive	Rural	$5
8	Rural extensive	Rural	$1

Having established these base land value rates, which have been stated as having been analysed from off-airfield sales transactions, adjusted land values reflect size and have been established as follows:

Category	**Land Values**
Category 1	$300/m^2
Category 2A - occupied	$120/m^2
Category 2B – vacant	$40/m^2

Category	Land Values
Category 3A – occupied	$100/m^2
Category 3B – vacant	$25/m^2
Category 4A - occupied	$80/m^2 to $90/m^2
Category 4B – vacant	$25/m^2
Category 5A - occupied	$50/m^2
Category 2B – vacant	$25/m^2
Category 6	$25/m^2
Category 7	$5/m^2
Category 8	$10,000/hectare to $12,000/hectare

In relation to the leasehold land it is stated that the valuer calculated the lessor's interest in the ground leases. No calculations are supplied to support the assessed ground lease component.

Valuation Details

Appendix 1 to the report contains the valuation details splitting the complex between non-contestable and contestable uses. It is then further divided into use categories as previously discussed.

The values calculated have been rounded to the nearest $1,000 with the total non-contestable equating to $40,253,000. These values established in the work sheets are then transposed to the valuation summary. There is some variation in values from the worksheet to the summary which reflects the aggregation of uses and the rounding of both land areas and dollar values.

In relation to the calculation of the land value for the terminal footprint an allowance has been made for the contestable area which is stated at 11.8%, a deduction of 2928m^2. This calculates to a net area of 2.1882 hectares not 2.0536 hectares as shown in the work sheet. At a land value rate of $300/m^2 the land value for this area is effectively under-stated by approximately $400,000.

TelferYoung Comments - TY

The valuation prepared by CS is a straightforward document which discusses the valuation concept, develops the methodology and computates the land value.

The basis of valuation for the specialised assets (non-contestable) is MVEU. All other land is valued at market value – highest and best use, the normal open market approach to assessing land value.

Although the MVEU valuation methodology has been utilised it would appear to be synonymous with open market value or fair value as defined in FRS3.

The methodology utilised appears to be robust and is appropriate.

The valuation methodology is considered correct. However, any major concern will be in relation to the process utilised to develop the appropriate land value rates for the individual categories.

Obtaining market proxies is considered sound. However, there is no analysis either summarised or detailed which identifies the sales analysed to establish the land value rates and ultimately the adjustments made to arrive at the value levels attributed to the individual components.

Without this data it is impossible to make any meaningful analysis of the resultant values. This would be the subject of valuer experts meetings during the consultative process.

In relation to the establishment of the lessor's interest in the ground leases similar comments apply. No details were given as to the calculation of a market rent, residual lease term and reversionary interest.

In conclusion the methodology and process are sound. However, greater detail of comparable sales analysed and the method of adjustment is required to substantiate the conclusion reached in terms of individual land value rates. This would be part of a consultative process. Other methods such as DCF analysis would have proved useful as a check exercise on the validity of the values adopted.

Edward Rushton Pty Australia Limited - ER

The commentary on Christchurch International Airport Limited by ER is dated 2 February 2000 and is titled "Summary of Investigations". The investigations comprise:

+ Land Value
+ Buildings
+ Indicative Assessment
+ Conclusions

ER is critical of CS's approach to the calculation of the land value particularly in relation to the lack of market bases for the approach. ER was also very critical that no optimisation of the land area had been undertaken.

ER suggested that a uniform overall land value per hectare rate over all portions of the airport should be utilised.

ER suggested that the land valuation should be rejected, requesting additional advice as to market based information and justification for the size discount.

ER were very critical of what they termed to be the transposition of values without market based justification and called this "unsubstantiated theory."

ER stated that the importing of values for more intensively used land to the airport may be an appropriate approach if adequate size discounts were applied.

ER criticise an approach that did not consider the transposition of land sales from Auckland Airport to Christchurch Airport and, although they were some distance apart, they were both airports and applying correct valuation principles they should be quite comparable.

They were strongly of the view that the airport should have been viewed as an indivisible whole.

ER adopted an optimised area of 514 hectares based upon "independent advice" which compares with the CS non-contestable area of 420.43 hectares. ER then developed an overall land value rate per hectare as follows:

Base land value (derived from Auckland sales)	$30,000/hectare
Premium as airport belt land (as developed from Auckland 55%)	$16,500/hectare
Site preparation allowance	$15,000/hectare
Adjusted land value rate	**$61,500/hectare**

ER's calculation therefore is as follows:

Land for non contestable airport	514 hectares @ $61,500/hectare	**$31,611,000**

ER concluded that *"We are of the opinion that the land should be valued adopting the underlying zone and then adding a premium over that base value to reflect the variety of non airport uses that occur and if sales of land zoned for airport use have occurred in the immediate or distant areas they must be regarded"*.

TelferYoung Comments – TY

ER are very critical of the valuation prepared by CS for CIAL. The criticism applies to all aspects of the report including:

+ Methodology
+ Lack of optimisation
+ Incorrect use of market evidence
+ Lack of adequate discounting for scale
+ Failure to utilise transactions in Auckland
+ Valuing the airport as a sum of the parts rather than an indivisible whole.

The comments relative to the lack of market based evidence is relevant. However, a number of the other comments are not justifiable or realistic.

There is no need to optimise the land area. ER have obtained "independent advice" on the optimised airfield land area. They have arrived at an area of 514 hectares as opposed to the CS non-contestable area of 420.38 hectares. For financial reporting under FRS3, which is now in place, optimisation is not available and FRS3 will be adopted at the next valuation date.

The optimised land area for non-contestable airport land as stated by ER is almost 96 hectares greater than the area utilised by CS for CIAL.

ER have been inconsistent utilising a rural land value, which they state is derived from Auckland, of $30,000 per hectare. However in the same report in reference to Auckland International Airport they utilise a base land value rate of $50,000 per hectare which they state is a rural land value. There are no recent sales of rural land close to Auckland Airport at $30,000 per hectare.

Accordingly, there is no justification for the use of $30,000 per hectare based upon any land sales analysis.

To this base land value of $30,000 per hectare a premium of 55% is added which they state is as per Auckland Airport land. There is no meaningful analysis or justification given for this huge premium adjustment.

To this adjusted land value a further allowance of $15,000 per hectare is added as a "site preparation allowance".

Once again no detailed analysis or justification is provided.

ER provide an unsubstantiated base land value of $30,000 per hectare which is more than doubled to give an adopted rate of $61,500 per hectare without any supporting analysis or detail of the adjustment used.

Utilising this approach, without substantial analysis and comparison this value approach is not sustainable to establish the land value for CIAL.

Many of the criticisms that ER level against CS are equally applicable to their own valuation investigations.

The conclusions reached by ER of a contestable airport value of $31,611,000 is erroneous due to the methodology adopted in terms of the development of the land value rate, utilisation of optimisation and the lack of focus on land value rates driven from the local market.

13.0 Alternative Valuation Assessments

The 1999 and 2000 valuations were undertaken under MVEU in accordance with the NZIV and IVSAC Valuation Standards. At the next review in 2004, Financial Reporting Standard 3 (FRS3) will require the reporting of a 'fair value' and issues relating to optimisation for MVEU may not be a consideration.

For various reasons, which are unnecessary to explore here, historical costs indexed would be a difficult concept to apply in determining the MVEU land value. Apart from the difficulty of researching records, the appropriateness of indexing costs when they apply to land is debatable in the extreme. Suffice to say that this approach does not encourage efficient utilisation and may result in significant recording of an over or under valuation of the land asset. It cannot represent MVEU.

The prime method of determining values is by direct market comparison although the application of this process is recognised as both difficult and potentially contentious.

A zonal approach is clearly the preferred primary option. It presents relatively less difficulty when it is applied to contestable land, or even land under the ITB although there are issues relating to economic justification for a different value than that applying to the balance of airfield land.

DCF methodology has the specific advantage of being explicit as to assumptions, dealing with cash flows as they occur. But, in the case of a major airport, the assumptions will inevitably be as hotly debated as the DCF methodology considered by AIAL in the present exercise.

Reclamation Cost Approach

A reclamation cost approach has been suggested as a cross check, referred to in a number of AIAL and WIAL documents, as a mechanism to determine the MVEU of land or, in the future, the fair value under FRS3. Its omission is regrettable, as it may have focussed the value issue more squarely in terms of ORC. This exercise could have been undertaken to determine the value of the platform, which is essentially runway land, where it extended out into the sea.

Historically, the Leigh Fisher & Associates report of 1959 examined and approved the development of Mangere as the international airport for Auckland. There had been an airport at Mangere since 1928. Leigh Fisher refers to the Tymns report of 1948 confirming the requirements of an international at each of Auckland, Wellington and Christchurch and recommending urgent investigations of sites at Mangere and Pakuranga together with provisions of funds for necessary meteorological surveys.

In the Tymns report the Pakuranga site was rejected as it did not comply with ICAO clearances and Mangere was initially rejected because of the amount of valuable farmland used for an airport. Whenuapai was discarded and three alternative locations were considered:

+ One in the Upper Waitemata Harbour designated for an industrial area
+ Another in Shoal Bay at Devonport opposite Downtown Central Auckland
+ A third, parallel to the shore coastline out from Bastion Point, also in Auckland

The acknowledged best solution was to utilise the existing Mangere Airport and extend the runway into the harbour to minimise the taking and utilisation of productive land. Leigh Fisher described the advantages of the Mangere site as "substantial", summarised as follows:

+ *"Meteorological conditions are comparable or superior to any site in the area, including Whenuapai. Lower fog frequency than at Whenuapai is reported.*
+ *Excellent take off paths over Manukau Harbour into the prevailing south west wind*
+ *Take offs over the harbour will eliminate severe noise problems*
+ *No obstructions and nearby terrain is suitable for lowest instrument minimums*
+ *Unlimited and reasonably economical expansion area for runways on tidal flat is possible without taking productive land*
+ *A comparatively low cost of construction can be anticipated because the area is already level and the tidal flats are fairly stable*
+ *Small use of dairy and farm land*
+ *Minimum purchase of private property for the airport area. The airport land is owned by the Government and the tidal area by the Auckland Harbour Board*
+ *The location is remote from built up residential areas*
+ *Convenient to the centre of Auckland. Approximately 14 miles distant and to be served by a motorway system already under construction. Future motorway routes ideally integrate the site with the entire urban area*
+ *Mangere is south of the city. In addition to ease of access to the entire Auckland urban area through existing and planned motorways, this southerly location is readily reached from the growing towns south of Auckland and the Upper Waikato area. Also, since the great bulk of domestic traffic is from the south there will be a substantial net reduction in flying time and therefore cost to NAC.*

Ease of access, proximity and aeronautical factors are ideal. We therefore concur in the selection of the Mangere site and urge its expeditious development."

These are key advantages not enjoyed by a wide range of alternatives examined at the time, and clearly not available in 1999. A master plan was developed that incorporated the provision for a shorter second runway.

The extracts from the Leigh Fisher report illustrate that the costs of establishing an airport involving reclamation land and the preservation of rural land were fully addressed 40 years ago. The costs of reclaiming land for the most recent exercise involving the lagoon has been advised at $17.077 million for just under 29 hectares, reflecting around **$588,900/ha,** a very substantial sum.
The total reclaimed area at Mangere is in the order of 141.5 hectares as indicated on the plan of total land reclamation provided in the AIAL valuer's meeting June 2001 document (D1980-1). That area is approximately 40% of the airfield land in Zone 1 recalculated at 351.7205 hectares.

On a civil works plus adjoining land at an airport zoned value basis, it is not difficult to substantiate the level of values applied by the AIAL valuers under a "check method" based on the MVEU of the land prior to the development of the airport, without reference to any seabed, and accepting the seawall as a civil work in the process. Without in any way intending to promote a valuation, which, in itself, would be subject to substantial investigation and debate during the consultation process, the following approach could be hard to refute:

Zone 1 Airfield

(Runway, Taxiways & Aprons)	351.7205 ha
Deduct:	
Reclaimed Land	141.5000 ha
Existing Solid Land	210.2200 ha

Rural or urban value plus premium for airport designation plus a site preparation allowance range - $109,500/ha (ER) to $305,000/ha (SP)

210.22 ha @ $210,000/ha say	$ 44,000,000
All seabeds at nil value	
Civil Works	
Reclamation	
141.5 ha @ say $589,000/ha say	$ 83,000,000
Seawall as Civil Works say	$ 10,000,000
Wiroa Island & airport eastern approaches at value say	$ 14,000,000
Ground Handling	$ 2,000,000
	$153,000,000

This compares with the AIAL value for landing charges recalculation (excluding the future airfield land) at approximately $134 million.

It could be deemed unnecessary to further address Brownfields alternatives. These issues were fully addressed 40 years ago, and all other potential sites were discarded in favour of Mangere. No other site now provides a comparable utility.

Although not addressed at WIAL, a similar approach could be undertaken prior to entering the consultation process in 2002. This has been alluded to in WIAL documentation as a process yet to be carried out.

TelferYoung (Canterbury) Limited

Chris Stanley
M Prop Stud *Distn*
ANZIV, SNZPI
Registered Valuer

TelferYoung (Auckland) Ltd

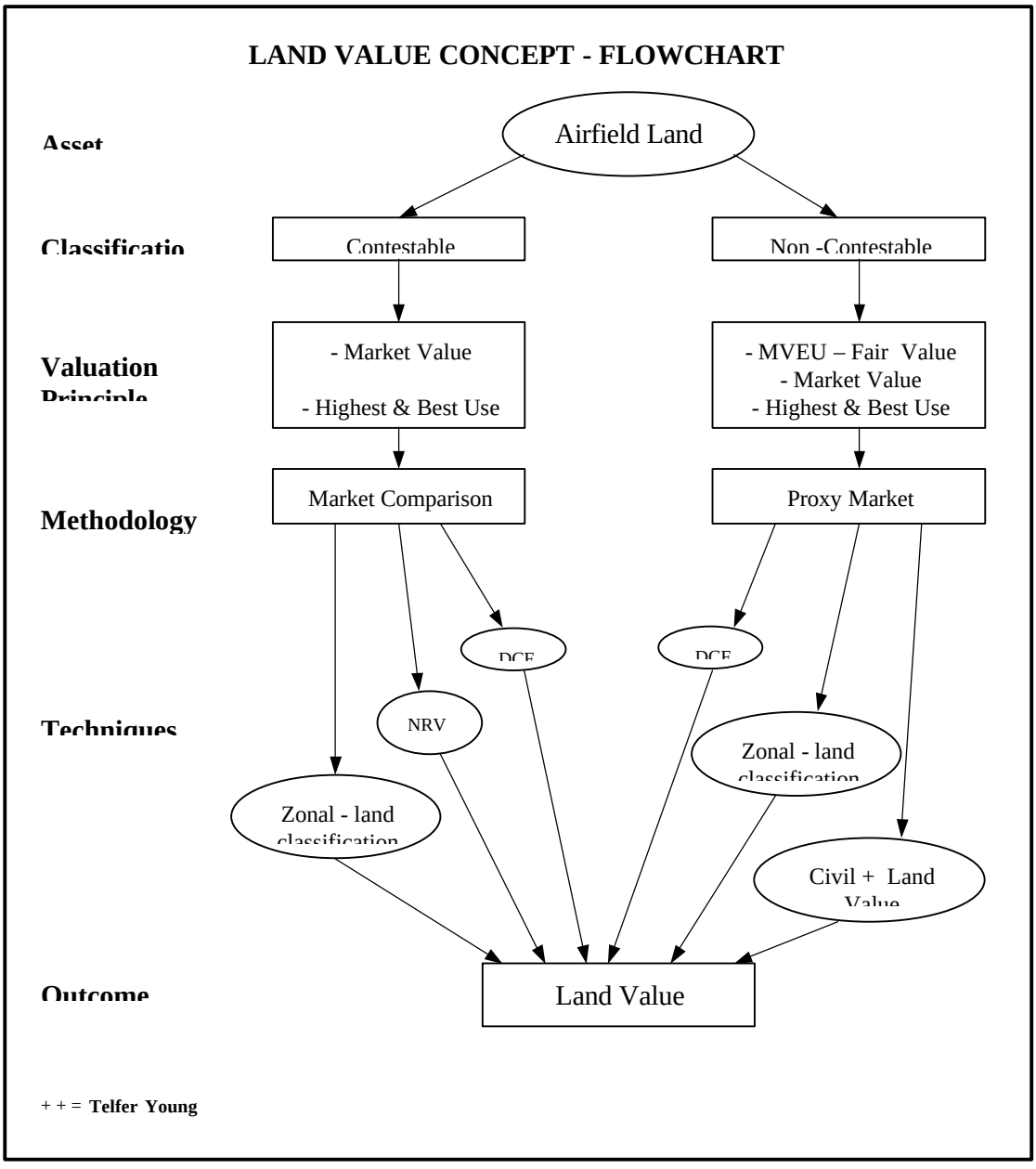
Evan Gamby
M Prop Stud *Distn*
DIP UV, FNZIV, FNZPI
Registered Valuer

APPENDIX 1

AIRPORT LAND VALUE COMPARISONS

	CIAL					WIAL					AIAL				
	Area	**%**	**Value**	**%**	**$/ha**	**Area**	**%**	**Value**	**%**	**$/ha**	**Area**	**%**	**Value**	**%**	**$/ha**
Terminal	2.20	0.30%	$6,609,000	7.94%	$3,004,091	1.80	1.61%	$4,535,000	6.56%	$2,519,444	38.35	2.23%	$42,551,000	13.16%	$1,109,544
Freight/Ind	44.28	6.09%	$24,491,000	29.43%	$553,094	29.31	26.30%	$15,281,755	22.12%	$521,401	26.85	1.56%	$12,455,000	3.85%	$463,873
	12.93	1.78%	$647,000	0.78%	$50,039										
Runways	373.90	51.43%	$9,690,000	11.65%	$25,916	78.84	70.73%	$47,303,580	68.46%	$600,000	492.82	28.61%	$113,388,000	35.07%	$230,080
	176.47	24.27%	$2,972,000	3.57%	$16,841										
Comm	35.65	4.90%	$27,961,000	33.60%	$784,320						127.60	7.41%	$48,774,000	15.09%	$382,241
	2.25	0.31%	$987,000	1.19%	$438,667										
Res						1.51	1.35%	$1,977,440	2.86%	$1,309,563					
Sea bed											430.18	24.97%	$30,113,000	9.31%	$70,001
Development	79.31	10.91%	$9,850,000	11.84%	$24,196						606.80	35.23%	$76,013,000	23.51%	$125,269
Total	**726.99**	**100.00%**	**$83,207,000**	**100.00%**	**$114,454**	**111.46**	**100.00%**	**$69,097,775**	**100.00%**	**$619,943**	**1722.60**	**100.00%**	**$323,294,000**	**100.00%**	**$187,678**

APPENDIX 2


LAND VALUE CONCEPT - FLOWCHART
Asset
Airfield Land
Classificatio
Contestable
Non -Contestable
Valuation
Principle
- Market Value
- Highest & Best Use
- MVEU – Fair Value
- Market Value
- Highest & Best Use
Methodology
Market Comparison
Proxy Market
DCF
DCF
Techniques
NRV
Zonal - land
classification
Zonal - land
classification
Civil + Land
Value
Outcome
Land Value
+ + = Telfer Young